

# Mobile Sources

## *and Rhode Island*

Fact Sheet #4—Electric Vehicles (EVs)

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### What is an EV?

Plug-in electric vehicles (EVs) are powered by electricity and can be re-charged by plugging into an outlet. There are two types of plug-in EVs:

- *Battery Electric Vehicles* (BEVs) are powered entirely by electricity stored in batteries and have an electric motor with no gasoline engine.
- *Plug-In Hybrid Electric Vehicles* (PHEVs) are powered by a combination of electricity and gasoline. An electric motor that is battery powered and can be plugged in and recharged and a gasoline engine that can be refueled with gasoline.



### Why Drive an EV?

EVs offer the best and cheapest alternative to petroleum-based transportation. EVs are powerful (check out the National Electric Drag Racing Association at nedra.com), with smooth acceleration, great torque and a quiet drive. They are reliable with a simple drivetrain that has few moving parts to repair or replace.

*Practicality* – Range exceeds most daily needs of 40 miles. No warm up needed.

*Better Fuel Economy* – Go 100 miles on \$4 of electricity, or just 4 cents per mile!

*National Security* – Use domestically produced electricity instead of foreign oil.

*Clean Energy* – Electricity can be made from clean, renewable fuel sources.

### Are EVs Expensive to Purchase and to Operate?

No. Not when you consider the total lifetime costs. As production volumes increase, EVs will cost no more than conventional cars and trucks in every price range. Some EVs cost less than 5 cents per mile to operate. EVs are nearly maintenance free (no oil changes or tune-ups). At \$4.00 per gallon, a gasoline powered car must average 80.4 mpg to match this! See for yourself at the [Vehicle Cost Calculator](#).

### Where Do You Fill Up an EV?

EVs are primarily charged at home overnight by plugging into a standard 120-volt plug. EVs can also fill up at one of the many public charging stations in your area or at work. There is a growing network of charging stations across the nation. Visit the Alternative Fuels Data Center for [EV Charging Stations](#).

### EVs just move the pollution and batteries pollute landfills, don't they?

EVs are 90% cleaner than the newest gasoline-powered cars even when the effects of electricity generation are factored in. The Battery Council International reports that 93% of all battery lead is recycled. Even higher rates for more EV batteries using precious metals, like lithium, are expected.

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